

Application No. 09/914,456  
Filed: August 28, 2001  
TC Art Unit: 2625  
Confirmation No.: 5339

REMARKS

The foregoing Amendment is filed in response to the official action dated August 22, 2005. The Applicants respectfully point out that this response to the above-referenced official action includes a request for continued examination (RCE). Reconsideration is respectfully requested.

The status of the claims is as follows:

Claims 1-30 are currently pending.

Claims 1-30 stand rejected.

Claims 1, 7, 11, 14, 19, 23, and 27 have been amended.

The Examiner has rejected claims 1-30 under 35 U.S.C. 103(a) as being unpatentable over Williams et al. (USP 6,199,986) in view of Neal et al. (USP 6,547,395) and further in view of Evans et al. (USP 5,739,906). The Applicants respectfully submit, however, that claims 1-30, as amended, are patentable over the art of record.

For example, claim 1, as amended, recites a process for noise reduction from noisy data representing an artifact at sample points in two dimensional space of a wafer specimen, including the steps of receiving said noisy data as a vector, each element of which corresponds to one sample point, and calculating coefficients of a polynomial which converts said noisy data vector

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to a two dimensional function continuously representing the artifact in the two dimensional space, in which said noisy data is obtained using a measuring apparatus and said calculating step includes mathematically multiplying said data vector by a matrix representing a noise characteristic of said measuring apparatus.

On page 3 of the official action, it is indicated that the Williams reference discloses a method that includes the step of calculating coefficients of a polynomial, which converts a noisy data vector to a 2D function continuously representing an artifact in the 2D space. In addition, on page 4 of the official action, it is indicated that the Evans reference discloses a method that includes the step of calculating Zernike coefficients of a polynomial to represent wafer bow in a 2D representation. The Applicants respectfully submit, however, that neither the Williams reference nor the Evans reference discloses a process for noise reduction a process for noise reduction, in which noisy data is obtained using a measuring apparatus and the calculation of a polynomial converting said noisy data vector to a two dimensional function continuously representing an artifact in the two dimensional space includes mathematically multiplying said data vector by a matrix representing a noise characteristic of said measuring apparatus, as recited in amended claim 1. The

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Applicants further submit that the Neal reference does not cure the deficiencies of the Williams and Evans references.

Accordingly, even if the Williams, Evans, and Neal references were combined as suggested in the official action, the resulting combination would not render amended claim 1 and the claims dependent therefrom obvious.

For at least the same reasons outlined above with reference to amended claim 1, the Applicants further submit that the suggested combination of the Williams, Evans, and Neal references would not render amended base claims 11, 14, 23, and 27, and the claims dependent therefrom obvious.

By providing a process for noise reduction from noisy data representing an artifact at sample points in two dimensional space of a wafer specimen that includes performing a transform on a data vector using a matrix representing the noise characteristic of a measuring apparatus, the noise contributed by the measuring apparatus can be reduced or eliminated (see page 5, lines 24-30, of the application). The art of record neither teaches nor suggests such an advantage.

Accordingly, it is respectfully requested that the rejections of claims 1-30 under 35 U.S.C. 103 be withdrawn.


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In view of the foregoing, it is respectfully submitted that the present application is placed in a condition for allowance. Early and favorable action is respectfully requested.

The Examiner is encouraged to telephone the undersigned Attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

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